

A New Species of the Genus *Tetragnatha* (Araneae: Tetragnathidae) from the Ryukyus, Japan

By

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Synopsis

OKUMA, Chiyoko (Entomological Laboratory, Faculty of Agriculture, Kyushu University, Fukuoka, Japan): A new species of the genus *Tetragnatha* (Araneae: Tetragnathidae) from the Ryukyus, Japan. *Acta arachnol.*, **27** (Special number): 27-32 (1977).

A new species, *Tetragnatha makiharai*, is described from the Ryukyus.

In this paper a new species of the genus *Tetragnatha* is described from Amami-Oshima and Okinawa, the Ryukyus. The new species is similar to *T. ceylonica* Cambridge which was also very recently discovered from the Ryukyus.

The author wishes to express her hearty thanks to Prof. Y. HIRASHIMA of Kyushu University for his kind guidance. The author is also indebted to Mr. H. MAKIHARA and Mr. M. HAYASHI of Kyushu University for their valuable advice, and especially to Mr. MAKIHARA for offering the interesting material.

***Tetragnatha makiharai* sp. nov.**

(Japanese name: Ryukyu-ashinagagumo)

(Figs. 1-9)

Holotype: ♂ (Type No. 2072, Kyushu University), Oku, Okinawa Is., 29. VI. 1976, H. MAKIHARA leg. Paratypes: 4♂♂ and 4♀♀, the same data as holotype; 1♂, Nishinakama, Amami-Oshima Is., 11. IV. 1976; 2♂♂ and 5♀♀, Nishinakama, Amami-Oshima Is., 4-5. VII. 1976; 1♂, Hatsuno, Amami-Oshima, 12. IV. 1976, all specimens were collected by H. MAKIHARA.

Type depository: The holotype is in the collection of the Entomological Labo-

Contribution from the Entomological Laboratory, Faculty of Agriculture, Kyushu University, Fukuoka (Ser. 3, No. 38).

ratory, Faculty of Agriculture, Kyushu University.

Male. Body length, exclusive of chelicerae 6.5 to 8.6 mm; carapacial length 2.3 to 2.9 mm, width 1.5 to 1.9 mm; abdominal length 4.2 to 5.7 mm, width 1.2 to 1.6 mm.

Eyes. Eight in two rows, ocular tubercles bearing lateral eyes prominent; viewed from above, both rows moderately recurved; viewed in front, anterior row definitely recurved, and posterior row nearly straight; central ocular quadrangle wider behind than in front in ratio of 4 : 3, wider behind than long in ratio of 4 : 3.4. Diameter of each eye is as follows: AME : ALE : PME : PLE=156 : 88 : 120 : 142 μ . AME separated from one another by their diameter or slightly less than that, and from ALE about twice as long as their diameter. PME separated from one another about twice as long as their diameter, and is separated from PLE also by about same length. Lateral eyes close together and separated from one another by diameter of ALE. AME separated from PME by slightly less than their diameter. Height of clypeus equal to diameter of AME.

Chelicerae. Well developed and strongly divergent; length of basal segment 1.7 to 2.2 mm; with a developed prolateral apophysis having a forked terminal; fang sinuous; promargin of fang groove with "large tooth" about one-third from distal end; two small teeth distal to this; a series of four to six teeth proximal to "large tooth" diminishing in size distally to very minute spine; retromargin with two relatively large teeth near base of fang and with additional series of four to six teeth proximal to the latter (Figs. 1-3), and between both margins a few very minute irregular teeth present.

Maxillae. Nearly parallel, somewhat broadened distally, somewhat concave along lateral surface in distal quarter, longer than lip in ratio of 23 : 10, slightly more than four times as long as wide at narrowest level.

Lip. Slightly shorter than wide at base in ratio of 9 : 10, sternal suture gently procurved.

Sternum. Length 1.3 to 1.4 mm, width 0.9 to 1.1 mm; continued between fourth coxae which are separated by about 70 μ .

Legs. 1 2 4 3.

	Femora	Patellae	Tibiae	Metatarsi	Tarsi	Total
1	7.0 \pm 0.7	1.1 \pm 0.1	7.1 \pm 0.7	8.3 \pm 1.0	1.5 \pm 0.9	25.1 \pm 2.5
2	4.4 \pm 0.5	0.9 \pm 0.1	3.6 \pm 0.4	4.1 \pm 0.4	1.0 \pm 0.1	14.1 \pm 1.4
3	2.1 \pm 0.3	0.5 \pm 0.1	1.2 \pm 0.2	1.7 \pm 0.2	0.6 \pm 0.1	6.1 \pm 0.7
4	4.5 \pm 0.5	0.6 \pm 0.1	3.3 \pm 0.3	4.1 \pm 0.5	0.9 \pm 0.1	13.4 \pm 1.3
Palp	1.5 \pm 0.2	0.4 \pm 0.1	0.6 \pm 0.1	—	1.0 \pm 0.1	3.5 \pm 0.3

(All measurements in millimeters)

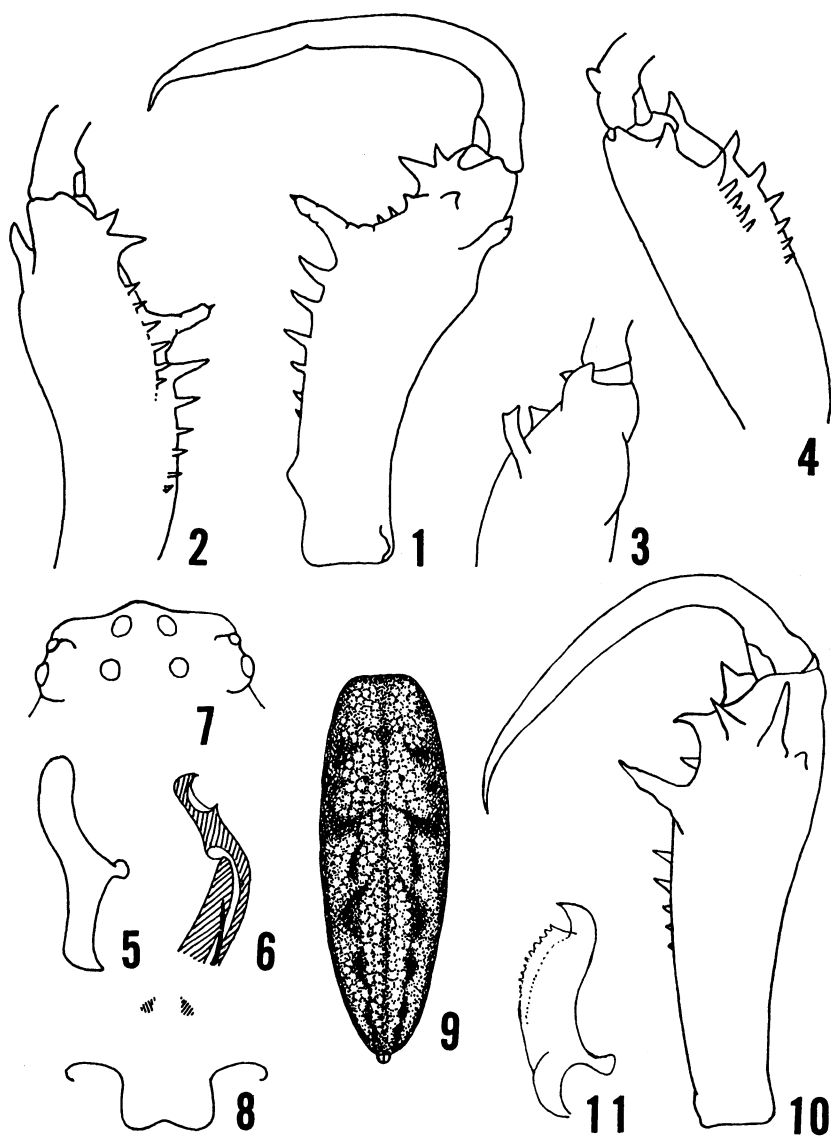


Fig. 1. *Tetragnatha makiharai* n. sp. and *T. ceylonica* Cambridge.
 1-9. *T. makiharai*; 1-3. Chelicerae (male). 4. Chelicerae (female).
 5. Paracymbium. 6. Apical end of conductor and embolus.
 7. Eyes (from above). 8. Genital fold. 9. Abdomen (female).
 10-11. *T. ceylonica*; 10. Chelicerae (male). 11. Paracymbium

Table 1. Measurements of body, carapace, sternum, abdomen, chelicerae, maxillae, lip and eyes of *Tetragnatha makiharai* n. sp.

Sex	♂		♀	
No. of specimens examined	8		9	
	mean±s. d.	(range)	mean±s. d.	(range)
Body length (mm)	7.6±0.9	(6.5-8.6)	8.9±0.8	(8.2-10.6)
Carapace length	2.6±0.2	(2.3-2.9)	2.8±0.2	(2.5-3.0)
width	1.7±0.2	(1.5-1.9)	1.9±0.1	(1.8-2.0)
Sternum length	1.4±0.1	(1.3-1.4)	1.6±0.1	(1.4-1.6)
width	1.0±0.1	(0.9-1.1)	1.2±0.1	(1.1-1.2)
Abdomen length	5.0±0.6	(4.2-5.7)	6.1±0.7	(5.4-7.6)
width	1.4±0.2	(1.2-1.6)	1.9±0.1	(1.8-2.1)
Chelicerae length	1.9±0.2	(1.7-2.2)	1.7±0.1	(1.6-1.8)
Maxillae length (μ)	1,050±100	(925-1,200)	1,180±54	(1,100-1,225)
width	250±20	(225-275)	321±13	(300-337)
Lip length	455±50	(388-550)	500±26	(463-538)
width (base)	506±25	(475-550)	583±25	(525-600)
Eyes diameter				
AME	156±13	(138-175)	142±14	(125-163)
ALE	88±12	(75-100)	88±6	(75-100)
PME	120±7	(113-125)	129±9	(113-138)
PLE	142±9	(125-175)	142±14	(125-163)

Palp. Tibia longer than patella; paracymbium slender, bluntly rounded at its distal end (Fig. 5). Both conductor and embolus are somewhat spiraloid and spoon-shaped at apex (Fig. 6).

Color in alcohol. Legs, palps, chelicerae, carapace, maxillae, lip and sternum dark brown. Abdomen: dorsum dusky gray with four or five pairs of dark spots and covered by sparse white scales; venter dusky gray.

Female. Body length, exclusive of chelicerae 8.2 to 10.6 mm; carapacial length 2.5 to 3.0 mm, width 1.8 to 2.0 mm; abdominal length 5.4 to 7.6 mm, width 1.8 to 2.1 mm.

Eyes. Essentially as in male (Fig. 8) but each ratio and diameters of eye somewhat different from male; central ocular quadrangle wider behind than in front in ratio of 4 : 2.8, wider behind than long in ratio of 4 : 3.4. Diameter of each eye as follows: AME : ALE : PME : PLE=142 : 88 : 129 : 142 μ. AME separated from one another by slightly more than that, and from ALE about 2.5 times as long as their diameter. PME separated from one another about 2.5 times as long as their diameter and from

PLE also by about same length. Lateral eyes close together and separated from one another by diameter of ALE. AME separated from PME by about their diameter. Height of clypeus slightly less than diameter of AME.

Chericeræ. Moderately robust, length of basal segment 1.6 to 1.8 mm, fang with a dorsolateral cusp near base, promargin of fang groove with seven to eight teeth, retromargin with six to seven teeth (Fig. 4), and between both margins with a few very minute teeth irregularly as in male.

Legs. 1 2 4 3.

	Femora	Patellae	Tibiae	Metatarsi	Tarsi	Total
1	7.0±0.4	1.2±0.1	6.8±0.5	7.6±0.6	1.4±0.1	24.0±1.5
2	4.4±0.3	0.9±0.1	3.3±0.3	3.8±0.3	0.9±0.1	13.3±0.8
3	2.1±0.2	0.6±0.04	1.2±0.1	1.6±0.1	0.6±0.1	6.1±0.4
4	4.5±0.4	0.7±0.1	3.1±0.2	3.9±0.3	0.9±0.1	13.0±0.9

(All measurements in millimeters)

Abdomen. Genital fold as shown in figure 7.

Color in alcohol. Essentially as in male except abdominal dorsal spot somewhat more evident (Fig. 9).

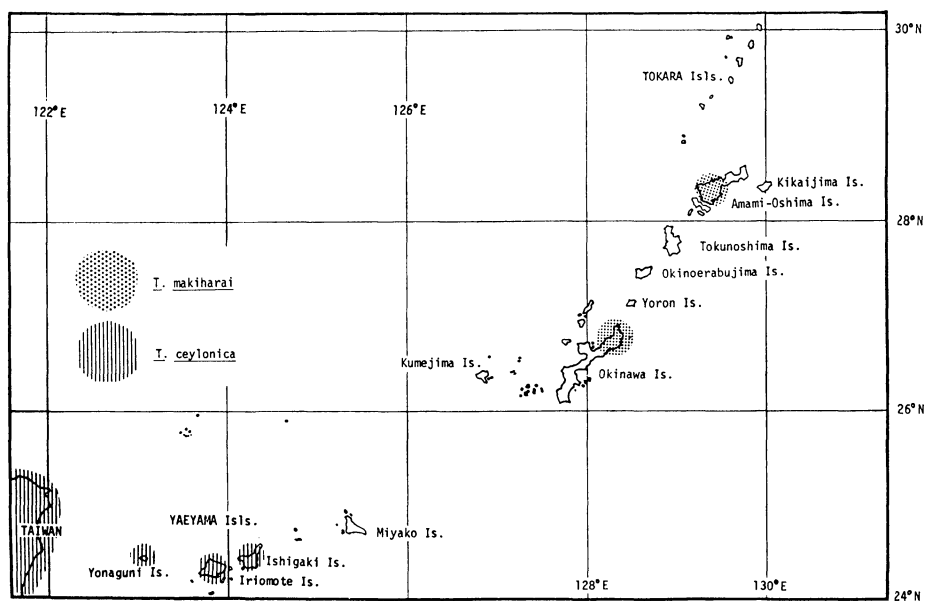


Fig. 2. Distributions of *Tetragnatha makiharai* n. sp. and *T. ceylonica* CAMBRIDGE in the Ryukyus.

This species is characterized by the arrangement of eyes similar to *T. ceylonica* Cambridge which widely occurs in Tropical Asia from India to New Guinea and Taiwan to the Ryukyus, but it differs from the latter by the shape of male chelicerae and praeacymbium (Figs. 10–11). Also the shape of “large tooth” at the promargin of the fang groove of the male chelicerae differs from all other known Oriental species of the genus.

Remarks: The distributions of the new species and *T. ceylonica* in the Ryukyus are shown in Fig. 2. It is clear that the habitats of both species are mutually exclusive. According to Mr. Makihara (pers. comm.) who collected the new species as well as *T. ceylonica* for the first time from the Ryukyus, the specimens of this new species were collected from bundles of dead twigs on the path in the forest and their surrounding bushes by beating, and the habitat where the new species was collected was relatively similar to that *T. ceylonica* was collected.

摘 要

大熊千代子 (九州大学農学部昆虫学教室, 〒812 福岡市箱崎): 琉球産アシナガグモ類の一新種.

本報では *Tetragnatha* 属の一新種を記載した. 本種は, 体の大きさ, 色彩, 特異な眼の排列など, *T. ceylonica* CAMBRIDGE に酷似しているが, 雄の上顎 (特に前牙堤上の巨大歯) や, 触肢 (特に小杯葉) の形態から明らかに区別できる. 即ち, *T. ceylonica* の雄の上顎の前牙堤上の巨大歯は, 次第に細まって, 先端がとがっている (Fig. 1 の 10) のに対し, 本種では, 棍棒状にまわり, その先が, 急に細くとがっている (Fig. 1 の 1 及 2). これは, 今までに知られているアシナガグモ類の中でも, 特異な形状である. また触肢の小杯葉の先端部は鈍頭で終り (Fig. 1 の 5), *T. ceylonica* にみられるように, 口ばし状に (Fig. 1 の 11) とがっていない.

分布については *T. ceylonica* が東南アジア一帯に広く分布しているのに対して, 本種は, 現在のところ, 沖縄 (国頭村・奥), 奄美大島 (住用村・西仲間, 瀬戸内町・八津野) からだけ採集されており, これら二種の琉球列島内における分布は, Fig. 2 に示したように重なっていない.

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